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Work Element Report

Use Designation and General Use Classification Definition Changes

I. Background

The Department's Water Quality Standards (WQS) currently provide descriptions or definitions for the general use waters and designated use waters. The definition for general use segments and the Class B(LR) Limited Resource warm water use designation have been determined to be inconsistent with the goals and intentions of the Clean Water Act (CWA).

I.A General Use

The current definition for General Use Segments is as follows:

> *These are intermittent watercourses and those watercourses, which typically flow only for short periods of time following precipitation in the immediate locality or as a result of discharges from wastewater treatment facilities, and whose channels are normally above the water table. These waters do not support a viable aquatic community of significance during low flow, and do not maintain pooled conditions during periods of no flow.*
>
> *However, during periods when sufficient flow exists in the intermittent watercourses to support various uses, the general use segments are to be protected for livestock and wildlife watering, non-contact recreation, crop irrigation, and industrial, agricultural, domestic and other incidental water withdrawal uses. The aquatic life existing within these watercourses during elevated flows will be protected from acutely toxic conditions.*

Based on EPA correspondence from September of 1997 and June & October of 1999, there are many inherent flaws currently with the manner in which general use segments are defined and how the specific criteria apply. Currently, general use segments protect for acute toxicity only, which is consistent with the CWA given a specific definition of what conditions support general uses only. The current definition and implementation of the general use criteria is debatable in this regard.

The definition of general use segments allows discharges from wastewater treatment plants to be considered as general use segments. This implies general use streams can be classified solely on their origin of flow which is inconsistent with federal regulations at 40 CFR 131.10(g)(2) regarding the

designation and maintenance or uses under effluent dominated conditions. Put simply, the presence of flow or pools supporting a designated use must stand alone regardless of the source of that flow or pooling.

Based on the current definition of general use waters, the EPA has stated that protection of aquatic life against acutely toxic conditions within general use waters during periods of elevated flow is not consistent with the CWA. Acutely toxic conditions should be protected in all waters and at all times.

It has also been noted that several perennial type streams in the State of Iowa are classified as general use. This is in contrast to the definition of general use segments that these streams are intermittent watercourses. There is an apparent gap between how general use segments are defined and how the waterbodies in Iowa are actually classified.

I.B Class B(LR) Limited Resource Warm Water

The current definition for Class B(LR) Limited Resource warm water is as follows:

> *Waters in which flow or other physical characteristics limit the ability of the water body to maintain a balanced warm water community. Such waters support only populations composed of species able to survive and reproduce in a wide range of physical and chemical conditions, and are not generally harvested for human consumption.*

Currently, Iowa believes that these waters do not support a fishery capable as a source of food for humans. However, the EPA has stated that water quality criteria for the protection of human health through the consumption of organisms should be provided for Class B(LR). The EPA does not believe that the biological description of these waters nor the actual incorporation of streams into the Class B(LR) designation is precise enough to support the human health exclusion.

EPA has also noted that the designated use descriptions provided for Class B waters should include more specificity as to how these streams are biologically different.

Recently, the department and EPA have come under fire for not appropriately addressing these outstanding issues, among a host of others, in a timely fashion.

In response, the department has committed to several time lines to revise the WQS to be consistent the goals and intentions of the CWA. The department and EPA are now working together to develop WQS modifications that will be reasonable and practical while being consistent with goals and intentions of the CWA i.e. EPA approvable.

II. Proposed Changes

The department met with EPA Region VII on several occasions to discuss possible definition changes. It was agreed that more language is necessary to expand the designated uses to encompass <u>all perennial</u> waters (pooled waterways and free flowing streams) which would protect the aquatic communities that may exist in these waters during times of stress due to low or non-flow conditions. That is, if perennial waters exist, a designated use should be established to protect the aquatic community. It is proposed that these waterways, pooled reaches and free flowing stream, be afforded both acute and chronic protection. In addition, it was understood that the general use classification needed to be reworked to better define the line between what is a designated use waterbody and what is a general use water body.

Therefore, the department proposes the following WQS modifications to incorporate the concept changes:

General use changes:

567—61.3(455B) Surface water quality criteria.
61.3(1) *Surface water classification*. All waters of the state are classified for protection of beneficial uses. These classified waters include general use segments and designated use segments.

a. General use segments. These are intermittent watercourses and those watercourses which typically flow only for short periods of time following precipitation in the immediate locality ~~or as a result of discharges from wastewater treatment facilities~~, and whose channels are normally above the water table. These waters do not support a viable aquatic community of significance during low flow, and do not maintain pooled conditions during periods of no flow. ~~However, during periods when sufficient flow exists in the intermittent watercourses to support various uses,~~ The general use segments are to be protected for livestock and wildlife watering, <u>aquatic life,</u> noncontact recreation, crop irrigation, and industrial, agricultural, domestic and other incidental water withdrawal uses. ~~The aquatic life existing within these watercourses during elevated flows will be protected from acutely toxic conditions.~~

61.3(2) *General water quality criteria. The following criteria are applicable to all surface waters including general use and designated use waters, at all places*

and at all times for the uses described in 61.3(1)a. ~~to protect livestock and wildlife watering, aquatic life, noncontact recreation, crop irrigation, and industrial, domestic, agricultural and other incidental water withdrawal uses not protected by the specific numerical criteria of subrule 61.3(3).~~

Explanation:

General use segments as a result of discharges from wastewater treatment facilities has been eliminated as the presence of flow or pools supporting a designated use must stand alone regardless of the source of that flow or pooling.

The department has eliminated discussion regarding elevated flows such that these waters will be protected at all places and all times. The rest of the changes clarify the relationship and eliminate redundancy between the definition in 61.3(1)a. and the associated criteria listed in 61.3(2).

Designated Use Changes:

567—61.3(455B) Surface water quality criteria.
61.3(1) *Surface water classification. All waters of the state are classified for protection of beneficial uses. These classified waters include general use segments and designated use segments.*

b. Designated use segments. These are water bodies which maintain flow throughout the year, or contain sufficient pooled areas during intermittent flow periods to maintain a viable aquatic community of significance.

*(8) Limited resource consumable warm water (Class "B(LR-C)"). Waters in which flow or other physical characteristics limit the ability of the water body to maintain a balanced warm water community. Such waters support only populations composed of species able to survive and reproduce in a wide range of physical and chemical conditions, and ~~are not generally~~ **may be** harvested for human consumption.*

(9) Limited resource non-consumable warm water (Class "B(LR-NC)"). Waters in which pooled conditions generally persist, but flow during periods of adequate rainfall. The physical characteristics limit the ability of the water body to maintain a balanced warm water community. Such waters generally support only populations composed of tolerant fish species (minnows) adapted to live in such conditions that are not harvested for human consumption.

Explanation:

The department is proposing to add human health criteria to the current Class B(LR) use designation. While there have been differences of opinion of the potential for bio-accumulation effects in Class B(LR) streams in the past, the DNR now recognizes that citizens, primarily minority ethnic

groups, consume from these waters various fish species (for example carp & sucker species) of various sizes that are not typically consumed by the majority of the population.

With the proposed modifications, the DNR intends to classify many waterways as Class B(LR) -type streams that possess very low flow or only perennial pooled conditions. These conditions support only populations of tolerant fish species, such as fathead minnows, or other aquatic species. Therefore, it was necessary to propose the new Class B(LR-NC) use designation. This designation will provide the same aquatic life protection, however it will not include human health protection for fish consumption as the aquatic species present in these extremely limited environments are not harvested for human consumption.

Splitting this definition on the basis of human fish consumption should provide a fairly simple means of assessing Class B(LR)-type streams in the future. If consumable species of sufficient size (e.g., carp and suckers) are present or capable of being supported in a stream, then it should be afforded a Class B(LR-C) designation. If only minnows or basic aquatic species are found in a stream where pooled conditions persist, then it should be afforded a Class B(LR-NC) designation.

Points of Interest:

The manner in which these streams will be assessed will be detailed in the development of the warm water use designation assessment protocol as a part of group #2 rule making.

The definition changes provide a good framework for the warm water use designation assessment to be developed because it provides clear definition of what type of streams will fit into these different classifications. It also assures that these streams will be adequately protected for both acute and chronic toxic conditions.

As a part of the rule making process, the department is preparing an economic analysis to assess the fiscal impact of the proposed rule changes to the use designation and general use classification definition changes. This work element report will be periodically updated as more detailed information regarding fiscal and/or any other impact related to this rulemaking is established.

The department is also intending to possibly include new stream reaches into the Class B(LR-C) use designation. This may be accomplished using field sheets from previous assessments in addition to staff knowledge of

where perennial stream exists that are currently classified as general use. It is understood that field truthing using the future warm water use designation assessment protocol will be necessary for stream segments that are designated Class B(LR-C) prior to the warm water use designation assessment protocol development and completion.